



## **Review of Delta Mercury Control Program Phase 1 Reports**

Delta Science Program Information Sheet August 2021

### **Motivation**

At the request of the Central Valley Regional Water Quality Control Board, the Delta Science Program facilitated a review of the Phase 1 studies informing its Delta Mercury Control Program (DMCP). **The Central Valley Regional Board will use this review to** inform mercury reduction goals, standards for mercury levels in fish that are consumed by humans and wildlife, and compliance dates. Between 2018-2021, the Delta Science Program coordinated this review and facilitated a Planning Committee that helped guide the review. The review panel consisted of six nationally and internationally recognized mercury experts.

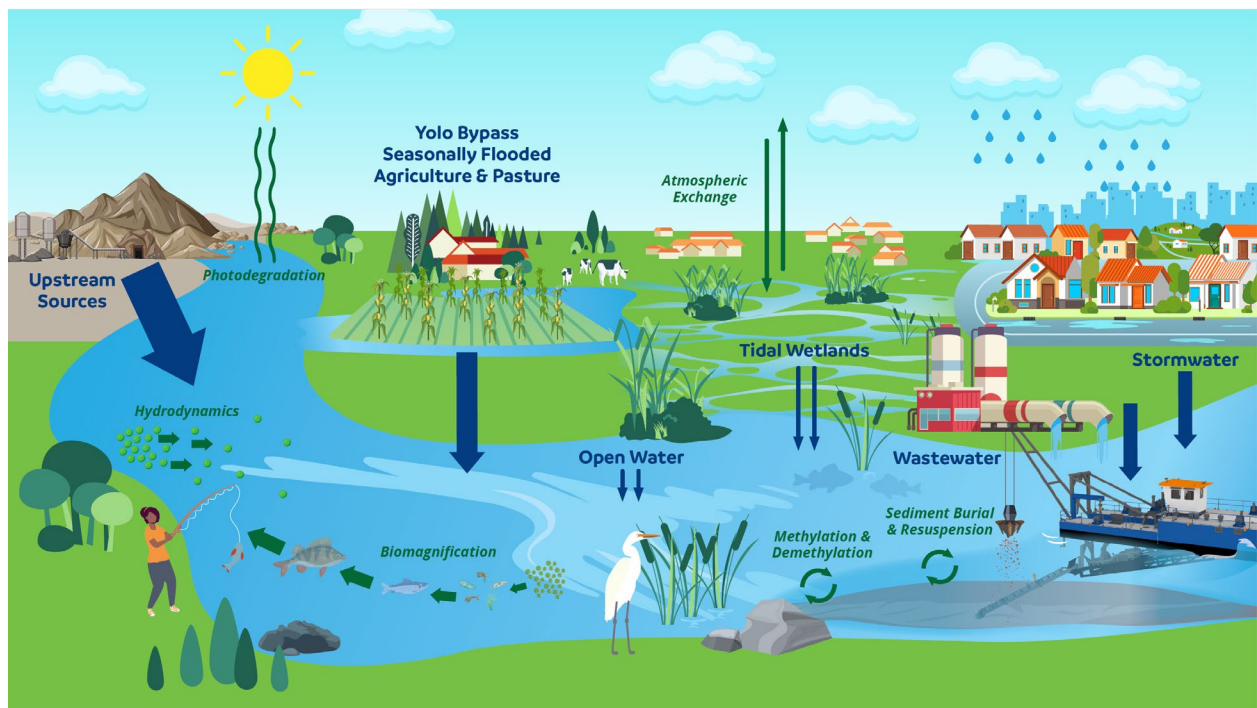
### **Background**

**Methylmercury is the most toxic form of mercury:** it severely impacts the nervous system and reproduction, and it accumulates and increases in each successive level of the food web. **Harmful levels of methylmercury are found in fish consumed by people and wildlife in the Sacramento-San Joaquin Delta,** earning the system a place on the Clean Water Act's list of impaired water bodies. In response, **the Central Valley Regional Board established the DMCP to control mercury in the Delta,** with implementation to occur in two phases over 20 years (2010-2030).

**The goal of the independent review** of these studies was to assess the scientific validity of methods, analyses, and conclusions.

## Key Findings and Recommendations of the Review

- **Upstream inputs** (legacy gold and mercury mines) are the overwhelmingly dominant sources of mercury and methylmercury to the Delta. The only way to reduce Delta mercury levels is to reduce upstream inputs and focus on mercury controls in the Yolo Bypass.
- Results from the **tidal wetlands** study, which suggested that tidal wetlands are not sources of mercury, contradicts other published work.
- Yolo Bypass **seasonally flooded agriculture** is the largest internal source of methylmercury to the Delta. While some reductions in mercury are possible, it is unlikely that current mercury reduction goals can be met in the Yolo Bypass.
- **Urban stormwater and municipal wastewater** are relatively minor sources of mercury and will easily meet their mercury reduction goals. The panel identified data quality, data uncertainty, and monitoring issues that must be addressed in order to improve mercury tracking for these sources.
- **The tidal wetland models can be improved with...**
  - A more robust representation of critical mercury cycling processes and by **considering climate change, land use, and population change**; and
  - Additional efforts to improve the quality and availability of input data and to confirm the model results.
- **The Central Valley Regional Board should develop a climate change adaptation framework** and update the total maximum daily load model framework and mercury load estimates.



*Major sources (non-italicized text) and processes (italicized text) of mercury and methylmercury in the Delta discussed in the review reports. The size of the blue arrows indicates the approximate relative magnitude of the source.*



Independent scientific peer review ensures that, through expert evaluation of scientific validity and credibility, the best possible science is used in decision-making processes.

The Delta Science Program is a leading coordinator of independent scientific peer review in the Delta.

## Learn More

To find out more about the Delta Science Program's scientific peer review services, consult the [peer review and advice web page](#) and [FAQs](#) or email [reviewadvice@deltacouncil.ca.gov](mailto:reviewadvice@deltacouncil.ca.gov).

For more information about this review in particular, see the [independent scientific review of the Delta Mercury Control Program phase 1 web page](#).



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